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EXAMINER

TECKLU, ISAAC TUKU

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. This action is responsive to the amendment filed on 07/30/2008.
2. The objection to the drawing has been withdrawn in view of the newly amended specification.
3. The objection to claims 15 and 36 has been withdrawn in view of the amendment.
4. The rejection under 35 U.S.C. 101 to claims 22-42 has been withdrawn in view of the amendment.
5. New claims 43-47 have been added.
6. Claims 1-47 have been examined.

Information Disclosure Statement

7. The information disclosure statement filed on 07/30/2008, fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the cited document is not referred to by date or place of publication. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1- 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Boykin et al. (US 2004/0123279 A1).

Per claim 1 (Currently Amended), Boykin discloses a classfile modification method, comprising:

modifying a classfile after said classfile has been compiled from source code, said classfile describing properties of a class within an object oriented environment (e.g. FIG. 4B, 412, 414 and related text), said modifying comprising:

modifying a method information structure by adding byte code instructions to the byte code instructions of said method information structure's respective method (e.g. FIG. 11A-11B and paragraph [0007] "... injector inserts hooks in the loaded class..." and paragraph [0055] – [0055]), said byte code instructions to cause a plug-in module's handler method to execute an output function for said method (e.g. Table 9, line 12, receiving said identifier "handle"; line 20,

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invoke 'hooks.pos(handle, new Integer(returnValue))'; Table 6, details of "hooks.post", "probe.post", which calculates/reports transfer rate about the "read" method); and,

adding a method information structure that includes byte code instructions for registering the identities of said class and said method (paragraph [0050] "... add hooks to the Java methods/constructors... by the register... injector is notified that a new Java class is being loaded... registry ..." and e.g. FIG. 4A, 410, 416 and related text) with a dispatch unit that is responsible for dispatching an invocation to said plug-in module during runtime execution of said modified byte code (e.g. Table 9, line 12, "hooks.pre(imc)", IHooks/JVM 402; Table 5, details of "hooks.pre(imc)"), said invocation directed to said dispatch unit from said added byte code instructions (paragraph [0080] "... bytecodes include invocations to hooks methods that contain ...").

compiling results of the modifying of the class file, the results including method information (paragraph [0079] "... add the special instrumentation code and then recompile the modified class..." and e.g. FIG. 4B and related text); and

filtering the method information by applying filtering parameters via a filtering module, the filtering of the method information including filtering timing data, method invocations, and other method-related information (paragraph [0054] "... probed classes can be specified individually or through filters..." and "... methods can be specified individually or through filters such as all 'public' methods or all methods with parameter list and e.g. FIG. 11A and related text),

Per claim 2, Boykin discloses the class files modification method of claim 1 wherein said identities are each in a character string format (Table 7 public interface Register... string probe ID string description ...”).

Per claim 3, Boykin discloses the class files modification method of claim 2 wherein said modifying a class files further comprises:

adding a field information structure, said field information structure describing a field that is to store a numeric identifier of said class (paragraph [0071] “... inserts code at ...” and e.g. FIG. 7, step 708).

Per claim 4, Boykin discloses the class file modification method of claim 3 wherein said numeric identifier is provided to said class by a method of which said dispatch unit is comprised (see e.g. FIG. 4, registry e.g. by providing an identifier and Table 12).

Per claim 5, Boykin discloses the class file modification method of claim 1 wherein a portion of said byte code instructions that are added to said method are for causing said plug-in module's handler method to provide said output function treatment in response to an entry point of said method being reached (e.g. Table 9, line 12, receiving said identifier “handle”; line 20, invoke "hooks.pos(handle, new Integer(returnValue)).

Per claim 6, Boykin discloses the classfile modification method of claim 5 wherein said output function treatment is a function selected from the group consisting of:

- 1) recording a time of entry for said method (Table 6 getEntries(); for (int i = 0)... i++);
- 2) recording an input parameter value for said method (Table 6 getEntries(); for (int i = 0)... i++); and,
- 3) incrementing a counter for said method (Table 6 getEntries(); for (int i = 0)... i++).

Per claim 7, Boykin discloses the classfile modification method of claim 1 wherein a portion of said byte code instructions that are added to said method are for causing said plug-in module's handler method to provide said output function treatment in response to an exit point of said method being inevitably reached (e.g. Table 9, line 12, receiving said identifier "handle"; line 20, invoke "hooks.pos (handle, new Integer(returnValue)).

Per claim 8, Boykin discloses the classfile modification method of claim 7 wherein said output function treatment is a function selected from the group consisting of:

- 1) recording a time of entry for said method (Table 6 getEntries(); for (int i = 0)... i++);
- 2) recording an input parameter value for said method (Table 6 getEntries(); for (int i = 0)... i++); and,
- 3) incrementing a counter for said method (Table 6 getEntries(); for (int i = 0)... i++).

Per claim 9, Boykin discloses the classfile modification method of claim 7 wherein portions of said byte code instructions that are added to said method are for causing said plug-in module's handler method to provide said output function treatment in response to any exit point of said method being inevitably reached (e.g. Table 9, line 12, receiving said identifier "handle"; line 20, invoke "hooks.pos(handle, new Integer(returnValue)).

Per claim 10, Boykin discloses the classfile modification method of claim 1 wherein a portion of said byte code instructions that are added to said method are for causing said plug-in module's handler method to provide said output function treatment in response to an error arising during execution of said method (e.g. Table 9, line 12, receiving said identifier "handle"; line 20, invoke "hooks.pos(handle, new Integer(returnValue)).

Per claim 11, Boykin discloses the classfile modification method of claim 1 wherein:

a first portion of said byte code instructions that are added to said method are for causing said plug-in module's handler method to execute said output function treatment in response to an entry point of said method being reached (e.g. Table 9, line 12, receiving said identifier "handle"; line 20, invoke "hooks.pos(handle, new Integer(returnValue));

a second portion of said byte code instructions that are added to said method are for causing said plug-in module's handler method to execute said output function treatment in response to an exit point of said method being inevitably reached (e.g. Table 9, line 12, receiving

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said identifier “handle”; line 20, invoke ‘hooks.pos(handle, new Integer(returnValue))’; Table 6, details of “hooks.post”, “probe.post”, which calculates/reports transfer rate about the “read” method); and,

a third portion of said byte code instructions that are added to said method are for causing said plug-in module's handler method to execute said output function treatment in response to an error arising during execution of said method (e.g. FIG. 11A-11B and paragraph [0055] – [0055]), said byte code instructions to cause a plug-in module's handler method to execute an output function for said method (e.g. Table 9, line 12, receiving said identifier “handle”; line 20, invoke ‘hooks.pos(handle, new Integer(returnValue))’).

Per claim 12, Boykin discloses the classfile modification method of claim 1 wherein at least one of said instructions invokes a second method of which said dispatch unit is comprised (e.g. Table 9, line 12, “hooks.pre(imc)”, IHooks/JVM 402; Table 5, details of “hooks.pre(imc)”).

Per claim 13, Boykin discloses the classfile modification method of claim 12 wherein said byte code instructions are Java compatible and wherein said at least one of said instructions is an invoke special instruction (paragraph [0079] “... add the special instrumentation code and then recompile the modified class...” and e.g. FIG. 4B and related text).

Per claim 14, Boykin discloses the classfile modification method of claim 12 wherein said byte code instructions are Java compatible and wherein said at least one of said instructions is an invoke virtual instruction (see Table 3 and paragraph [0079] "... add the special instrumentation code and then recompile the modified class..." and e.g. FIG. 4B and related text).

Per claim 15, Boykin discloses the classfile modification method of claim 12 wherein said byte code instructions are Java compatible and wherein said at least one of said instructions is an invoke special instruction (see Table 3 and paragraph [0079] "... add the special instrumentation code and then recompile the modified class..." and e.g. FIG. 4B and related text).

Per claim 16, Boykin discloses the classfile modification method of claim 12 wherein said second method references a dictionary that correlates a numeric identification of said method and said class to a location where said plug-in module is found (see at least e.g. FIG. 2, 210, 214 and related text).

Per claim 17, Boykin discloses the classfile modification method of claim 1 wherein said modifying of said classfile further comprises modifying a second method information structure by adding byte code instructions to said second method information structure's respective

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method (paragraph [0007] "... injector inserts hooks in the loaded class..."), said byte code instructions to cause a second plug-in module's handler to execute output function treatment for said respective method (paragraph [0050] "... add hooks to the Java methods/constructors... by the register... injector is notified that a new Java class is being loaded... registry ..." and e.g. FIG. 4A, 410, 416 and related text).

Per claim 18, Boykin discloses the classfile modification method of claim 17 wherein said second method is a constructor (Table 3, probed constructor).

Per claim 19, Boykin discloses the classfile modification method of claim 1 further comprising adding byte code level instructions that assign numeric names to said classfile's methods in lieu of character string names (Table 1, name parameter).

Per claim 20, Boykin discloses the classfile modification method of claim 19 wherein said numeric names are based upon the order in which said methods are listed in said classfile, each next method in said order having a numeric name equal to a fixed increment above the numeric name for its immediately preceding method in said order (paragraph [0050] "... registry to determine whether the newly loaded class... instrumented ...").

Per claim 21, Boykin discloses the classfile modification method of claim 20 wherein said byte code instructions for registering are configured to execute in response to said classfile being loaded (paragraph [0050] "... registry to determine whether the newly loaded class instrumented ...").

Per claim 22 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 1), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 23 (Currently Amended), this is the machine storage readable medium version of the claimed method discussed above (Claim 2), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 24 (Currently Amended), this is the machine readable medium version of the claimed method discussed above (Claim 3), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 25 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 4), wherein all claim limitations have been

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addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 26 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 5), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 27 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 6), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 28 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 7), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 29 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 8), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

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Per claim 30 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 9), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 31 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 10), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 32 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 11), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 33 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 12), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 34 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 13), wherein all claim limitations have been

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addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 35 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 14), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 36 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 15), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 37 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 16), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 38 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 17), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

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Per claim 39 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 18), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 40 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 19), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 41 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 20), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 42 (Currently Amended), this is the machine readable storage medium version of the claimed method discussed above (Claim 21), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

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Per claim 43 (New), this is the system version of the claimed method discussed above (Claim 1), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 44 (New), this is the system version of the claimed method discussed above (Claim 2), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 45 (New), this is the system version of the claimed method discussed above (Claim 3), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 46 (New), this is the system version of the claimed method discussed above (Claim 4), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Per claim 47 (New), this is the system version of the claimed method discussed above (Claim 5), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Boykin.

Response to Arguments

10. Applicant's arguments with respect to claims 1-47 have been considered but are moot in view of the new ground(s) of rejection. See Boykin art made of record.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ISAAC T. TECKLU whose telephone number is (571)272-7957. The examiner can normally be reached on M-TH 9:300A - 8:00P.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Isaac T Tecklu/
Examiner, Art Unit 2192

/Tuan Q. Dam/
Supervisory Patent Examiner, Art Unit 2192

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